

Listing of Claims:

Claims 1-14 (Canceled)

15. (Original) A remote unit associated with a multi-dimensional measuring system comprising:

a target in communication with a tracking unit of the multi-dimensional measuring system, the target being capable of making pitch, yaw, and roll movements; and

a probe assembly coupled to the target, the probe assembly comprises a probe tip, a probe stem, and a probe base, wherein the probe tip is configured to reach locations not within a line of sight between the tracking unit and the target.

16. (Original) The remote unit of claim 15, further comprising one or more encoders coupled to the probe assembly.

17. (Original) The remote unit of claim 16, wherein at least one of the encoders is configured to determine a first angular position of the probe tip relative to the probe base.

18. (Original) The remote unit of claim 17, wherein at least one of the encoders is configured to determine a second angular position of the probe tip relative to the probe base.

19. (Original) The remote unit of claim 16, wherein at least one of the encoders is configured to determine an axial position of the probe tip relative to the probe base.

20. (Original) The remote unit of claim 16, further comprising a trigger configured to effect one or more measurements associated with a location touched by the probe tip.

21. (Original) The remote unit of claim 16, further comprising a touch sensor associated with the probe tip, wherein one or more measurements associated with a location is taken when the touch sensor comes into contact with the location.

Claims 22-44 (Canceled)

45. (Previously Presented) A remote unit of a multi-dimensional measuring system comprising:

a target in line of site communication with a tracking unit of the multi-dimensional measuring system, the target being capable of making pitch, yaw, and roll movements;

a probe assembly coupled to the target, the probe assembly comprising a probe tip, a probe stem, and a probe base, wherein the probe tip is configured to reach locations not within the line of sight between the tracking unit and the target; and

a trigger configured to effect one or more measurements associated with a location touched by the probe tip.

46. (Previously Presented) The remote unit of claim 45, further comprising one or more encoders coupled to the probe assembly.

47. (Previously Presented) The remote unit of claim 46, wherein at least one of the encoders is configured to determine a first angular position of the probe tip relative to the probe base.

48. (Previously Presented) The remote unit of claim 47, wherein at least one of the encoders is configured to determine a second angular position of the probe tip relative to the probe base.

49. (Previously Presented) The remote unit of claim 46, wherein at least one of the encoders is configured to determine an axial position of the probe tip relative to the probe base.

50. (Previously Presented) The remote unit of claim 45, further comprising a touch sensor associated with the probe tip, wherein one or more measurements associated with a location is taken when the touch sensor comes into contact with the location.

51. (Previously Presented) The remote unit of claim 45, wherein the probe stem is configured to pivot about the probe base along a circle.

52. (Previously Presented) The remote unit of claim 45, wherein the probe stem is configured to move about two axes.

53. (Previously Presented) The remote unit of claim 45, wherein the probe stem is configured to pivot in three dimensions about the base.

54. (Previously Presented) The remote unit of claim 45, wherein the probe stem is configured in an L-shape.

55. (Previously Presented) The remote unit of claim 45, wherein the probe stem is configured to telescope, such that a length of the probe stem is variable.

Claims 56-57 (Cancel)